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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,433	05/30/2000	ROBIN WALTER MILLS	PH010525 (TIR066)	9540
78823 7590 02/04/2009 PHILIPS INTELLECTUAL PROPERTY & STANDARDS 3 BURLINGTON WOODS DRIVE BURLINGTON, MA 01803				
EXAMINER NEGRO, ISMAEL				
ART UNIT 2885		PAPER NUMBER		
NOTIFICATION DATE 02/04/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

**Application No.**

09/509,433

**Applicant(s)**

MILLS ET AL.

**Examiner**

ISMAEL NEGRON

**Art Unit**

2885

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 32-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Page No./Mail Date: \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

***Response to Amendment***

2. Applicant's amendment filed on June 18, 2008 has been entered. Claims 32 and 33 have been amended. No claim has been cancelled, or added. Claims 32-38 are still pending in this application, with only claim 32 being independent.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 32-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over FISHER et al. (U.S. Pat. 5,029,335) in view of MASAMI et al. (U.S. Pat. 4,729,076).

FISHER et al. discloses an optical irradiation device having:

- **a radiation source (as recited in Claim 32),** Figure 3, reference number 88;
- **the radiation source consisting essentially of a plurality of LEDs (as recited in Claim 32),** column 4, lines 10-13;
- **the LEDs being thermally connected to a heat conductor (as recited in Claim 32),** Figure 2, reference number 60;
- **the LEDs being disposed at an end of the heat conductor (as recited in Claim 32),** as seen in Figure 2;
- **a unitary thermal connector directly connecting the LEDs and the heat conductor for conducting heat away from the LEDs (as recited in Claim 32),** Figure 3, reference number 72;
- **a fan or Peltier device proximate to the heat conductor (as recited in Claim 33),** Figure 3, reference number 72;
- **a heat sink in thermal contact with the heat conductor (as recited in claims 34 and 35),** Figure 2, reference number 66;
- **the heat conductor providing a means for cooling the LEDs such that the LEDs are capable of being driven to produce more radiation than the LEDs would be capable without the heat conductor (as recited in Claim 36),** as evidenced by column 7, lines 3-38; and

- **the LEDs being formed into one or more clusters/arrays (as recited in claims 37 and 38)**, column 4, lines 10-13.

4. FISHER et al. discloses all the limitations of the claims, except the heat conductor being a heat pipe (as recited in Claim 32).
5. MASAMI et al. discloses an optical irradiation device including a plurality of LEDs 1 cooled by a heat pipe 12 and a heat sink 4 (see figures 4 and 5E1).
6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a heat pipe as the heat conductor in the patented optical irradiation device of FISHER et al. to increase the heat transfer from the radiation source to the heat sink, as per the teachings of MASAMI et al.

### ***Response to Arguments***

7. Applicant's arguments filed on June 18, 2008 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negron whose telephone number is (571) 272-

2376. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee, can be reached on (571) 272-7044. The facsimile machine number for the Art Group is (571) 273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, go to <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197.

/Ismael Negron/  
Primary Examiner  
AU 2885